

**Amendments to the Specification:**

**Please replace the paragraph beginning on page 1, line 7 with the following:**

The present invention relates to a fiber array to be coupled ~~for use~~ to an optical element. Particularly, it relates to a fiber array, in which bare fibers, ~~as unjacket~~, of a ribbon-shaped optical fiber multi-core line are arrayed in the V-grooves of a V-shaped substrate, and a waveguide device having the fiber array sealed therein.

**Please replace the paragraph beginning on page 1, line 14 with the following:**

As a result that a higher density of optical fibers disposed in an array was demanded because of an increase in charges for communications, there have been disclosed techniques on the fiber arrays of a normal pitch type, in which a plurality of optical fibers are jointed and formed into a ribbon shape. Further, there have been also disclosed techniques on the fiber arrays of a half pitch type, in which two ribbon-shaped optical fiber multi-core lines 1 and 2 of the normal pitch type are laid one over the other, and in which ~~unjacket~~ unjacketed bare fibers are alternately arranged in the V-grooves of a V-shaped substrate thereby to realize the desired high optical fiber density.

**Please replace the paragraph beginning on page 1, line 24 with the following:**

In these techniques, it could be said that a loss of optical signals is liable to increase in the ribbon-shaped optical fiber multi-core lines arrayed in the V-grooves of the fiber array, strictly at their outer ports. As the case may be, ~~that~~ the bare fibers positioned on the outer sides may be broken. For a first one of these causes, the pitch of the ribbon-shaped optical fiber multi-core lines is standardized to 250  $\mu\text{m}$ , but is enlarged to about 100  $\mu\text{m}$  for the eight cores of an 8-core ribbon or to about 200  $\mu\text{m}$  for a 24-core ribbon ~~by~~ due to the occurrence of

errors at the jacket forming time. The magnitude of displacement of the pitch of the bare fibers, ~~as unjacket~~, from the pitch of the V-grooves is enlarged especially at the bare fibers housed in the V-grooves on the outermost sides. Therefore, a high bending force is applied to the jacket portions and further to the V-grooves. As a result, when the fibers are adhered and fixed in this state as the fiber array and are placed under a seriously changing temperature environment, the fibers are subjected at their bent portions to a severe stress thereby to cause an increase in the loss of the optical signals or to break the fibers.

**Please replace the paragraph beginning on page 2, line 19 with the following:**

Secondly, the pitch of the ~~un~~jacket~~ed~~ bare fibers is displaced with respect to the pitch of the V-grooves, so that especially the bare fibers housed in the outermost side V-grooves are largely displaced. Therefore, in the assembling work to house the optical fibers in the V-grooves of the fiber array, the bare fibers may be brought to abut against the ends of the V-grooves to cause flaws in the outer circumferences of the optical fibers. Then, although no problem arises just after the assembly, the V-groove end portions cause the increase in the loss of the optical signals and the breakage of the optical fibers after a long period of use. Especially in the case of the fiber array in which the pitch of the V-grooves is as small as 127  $\mu\text{m}$  for the high density, the V-grooves are shallowed by the relation between the diameter and the pitch of the fibers to be mounted and have a narrow opening. Therefore, the problem that the bare fibers to be housed abut against the groove ends of the V-grooves is liable to become serious.

**Please replace the paragraph beginning on page 4, line 17 with the following:**

In the present invention according to a first aspect, there is provided a fiber array in which bare fibers, ~~as an jacket~~, of a ribbon-shaped optical fiber multi-core line are arrayed in V-grooves of a V-shaped substrate. In this fiber array, fibers for transmitting no optical signal are disposed on at least the outermost sides of the array of ~~said the~~ bare fibers, and also disposed over at least the entire length of the fiber array. Therefore, no optical signal is transmitted to at least the outermost side fibers of the ribbon-shaped optical fiber multi-core line having the optical fibers arrayed in the V-grooves. As a result, the outermost optical fibers absorb the bending stress or the like to be applied to the remaining bare fibers. Even if the bare fibers on the outermost sides are broken in rare cases by the bending force or the like, no optical signal is transmitted. Consequently, the loss in the signals is not increased and the bare fibers on the inner side are not broken. Thus, the fiber array ~~is~~ shows excellent stability in ~~a the~~ long stability term.

**Please replace the paragraph beginning on page 6, line 24 with the following:**

In the present invention according to a second aspect, there is provided a waveguide device, in which a fiber array having bare fibers, ~~as an jacket~~, of a ribbon-shaped optical fiber multi-core line arrayed in V-grooves of a V-shaped substrate is optically connected to a waveguide chip and is sealed in a package. In this device, fibers for transmitting no optical signal are disposed on at least the outermost sides of the array of said bare fibers, and disposed from said fiber array to at least the inner face of the package for fixing the jackets. Even in the waveguide device in which the leading ends of the bare fibers but not the jackets are fixed in the V-grooves of the fiber array and in which the jackets are fixed by the package

to fix the fiber multi-core line, no optical signal is transmitted to at least the outermost side fibers. Thus, the outermost optical fibers absorb the bending stress or the like to be applied to the remaining bare fibers. Additionally, even if the bare fibers on the outermost sides are broken in rare cases by the severe vibrations or the like of the outside in which the waveguide device is placed, no optical signal has been transmitted. Therefore, the loss of the signals is not increased and so that the fiber array is not broken. Consequently, the device is excellent in a long stability.

**Please replace the paragraph beginning on page 7, line 21 with the following:**

~~Here, the~~The material for the dummy fibers is not especially limited, if it is exemplified by quartz for other optical fibers or a material having a similar shock resistance. The dummy fibers can absorb a shock even if they themselves are broken but so long as they do not come out, thereby to reduce a danger that the bending force arrives to break the inner bare fibers.

**Please replace the section heading on page 8, line 15 with the following:**

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT~~INVENTION~~

**Please replace the paragraph beginning on page 14, line 2 with the following:**

In the present invention according to the first aspect, as has been described hereinbefore, there is provided a fiber array in which bare fibers, ~~as an jacket,~~ of a ribbon-shaped optical fiber multi-core line are arrayed in V-grooves of a V-shaped substrate. Dummy fibers are disposed on at least the outermost sides of the array of said bare fibers, and

disposed over at least the entire length of the fiber array. Therefore, no optical signal is transmitted to at least the outermost side fibers of the ribbon-shaped optical fiber multi-core line having the optical fibers arrayed in the V-grooves. As a result, the outermost optical fibers absorb the bending stress or the like to be applied to the remaining bare fibers. Even if the bare fibers on the outermost sides are broken in rare cases by the bending force or the like, no optical signal is transmitted so that its loss is not increased. Consequently, the bare fibers on the inner side are not broken, and thus the device is excellent in a long stability.